

## **POSITION SENSITIVE SOLID STATE DETECTOR WITH INTERNAL GAIN**

The present invention is a solid state detector that has internal gain and incorporates a special readout technique to determine the input position at which a detected signal originated without introducing any dead space to the active area of the device. In a preferred embodiment of the invention, the detector is a silicon avalanche photodiode that provides a two dimensional position sensitive readout for each event that is detected.

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